A simulated Kalman filter optimizer with white hole operator

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Abstract.
The simulated Kalman filter (SKF) is a population-based optimization algorithm that was developed based on a well-known estimator called Kalman filter. Meanwhile, a white hole operator has been recently introduced to prevent premature convergence in black hole algorithm (BHA). The computation of white hole operator begins by selecting the worst agent as the white hole with event horizon. If an agent is located within the event horizon of white hole, the agent is pushed by the white hole. In this study, the white hole operator is used to improve the effectiveness of the SKF optimizer. A comprehensive experiment is done to prove the improvements of the SKF optimizer.

Keywords: Optimization; Simulated Kalman Filter; White Hole.